

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR2004/002613

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC7 C07C 4/04**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07C 4/04, 15/44, 15/46, 1/24, 1/20, 41/09, B01D 3/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/42426 A1(SHELL INTERNATIONAL RESEARCH) 26 AUGUST 1999 see the detailed description page 1, line1-line23.	16
A	see the abstract and the claims,	1-15
X	US 4273622 A(HALCON RESEARCH&DEVELOPMENT CORP.) 16 JUNE 1981 see column 1, line 13 - column 3, line54	16
A	see the whole document	1-15
X	WO 99/58480 A1(SHELL INTERNATIONAL RESEARCH) 18 NOVEMBER 1999 see page 1, line 7 - page2, line 10	16
A	see the whole document	1-15
X	JP 56095132 A(SUMITOMO CHEM. CO.) 01 AUGUST 1981 see the abstract and the claims	16
A	see the abstract and the claims	1-15
X	JP 56140935 A(SUMITOMO CHEM. CO.) 04 NOVEMBER 1981 see the abstract and the claims	16
A	see the abstract and the claims	1-15
A	US 4521637 A(ATLANTIC RICHFIELD COMPANY) 04 JUNE 1985 see the whole document	1-16

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:  
 "A" document defining the general state of the art which is not considered to be of particular relevance  
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 "P" document published prior to the international filing date but later than the priority date claimed

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 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
 "&" document member of the same patent family

Date of the actual completion of the international search

14 JANUARY 2005 (14.01.2005)

Date of mailing of the international search report

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**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9942426 A1	26-08-99	AU 199930285 A1 CA 2320770 A1 DE 69907148 T2 EP 1056697 A1 JP 2002503712 T2 US 6420620 B1	06-09-99 26-08-99 16-10-2003 06-12-2000 05-02-2002 16-07-2002
US 4273622 A1	16-06-81	NONE	
WO 9958480 A1	18-11-99	AU 3826799 A1 BR 9910328 A CN 1300272 T EP 1077916 A1 JP 2002514613 T2	29-11-99 30-01-2000 20-06-2000 28-02-2001 21-05-2002
JP 56095132 A	01-08-81	NONE	
JP 6140935 A	04-11-81	NONE	
US 4521637 A1	04-06-85	NONE	